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EXAMINER
SMARTH, GERALD A

ART UNIT	PAPER NUMBER
2446	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

	Application No.	Applicant(s)
Office Action Summary	10/784,957	YOO ET AL.
	Examiner	Art Unit	
	GERALD SMARTH	2446	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>09 March 2009</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,4-8,13-17,20-24,29-32,39 and 40</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,4-8,13-17,20-24,29-32,39 and 40</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>25 February 2004</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/17/09</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

I.

DETAILED ACTION

1. The instant application having Application No. 10/784957 has a total of 22 claims

pending in the application; there are 2 independent claims and 20 dependent claims, all

of which are ready for examination by the examiner.

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

03/09/2009 has been entered.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 4-8, 13-17, 20-24, 29-32, 39, 40 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Chen (2003/0005161), Sato (5884004) and further in view of

Choi (2003/02369005),

Regarding claim 1, Chen teaches a method of reproducing, <u>by a content reproducing</u>

<u>device</u>, content information stored on a recording medium <u>the method</u> comprising:

(*Chen states is a functional block diagram generally illustrating one embodiment*

for a synchronization recovery system 300 for recovering from a failed

synchronization session between a fixed computing device, such as an

information server 310 and a mobile device 320, in accordance with the present

invention; Page 3 paragraph 28 line 1-4)

reproducing <u>a</u> first <u>stream of</u> data read out from the recording medium in

synchronization with <u>a</u> second <u>stream of</u> data received from a Content providing server

over a network(*Chen discloses the system includes a first device associated with*

the first data store, a second device associated with the second data store, and a

serve. The server is coupled to a storage medium on which a synchronization

state is stored; Page 1 paragraph 05 line 4-8) <u>based on a first command sent from</u>

<u>the content reproducing device to the content providing server,</u> **(Choi discloses the**

method further includes receiving, by the client, the streamed media content from

the server. The method includes sending a reconnect request from the client to

the server if the streaming is interrupted; Page 2 paragraph 8 lines 7-13)the first

<u>stream of</u> data comprising audio/video data and the second <u>stream of</u> data comprising

content data associated with the first <u>stream of</u> data;

upon sensing the failure, *(Chen discloses is a functional block diagram generally illustrating one embodiment for a synchronization recovery system 300 for recovering from a failed synchronization session between a fixed computing device, such as an information server 310 and a mobile device 320, in accordance with the present invention. Page 3 paragraph 28 line 1-6)* re-synchronizing the first <u>stream of</u> data <u>stream of</u> with the second data based on information for synchronization or re- synchronization included in the second <u>stream of</u> data. :the information including data rate information of the second <u>stream of</u> data and/or size information of the second <u>stream of</u> data; and continuing to reproduce the first data in Synchronization with the second data, *(Chen discloses in addition, the synchronization application 342 can perform incremental updates to the mobile device 320 to resynchronize the mobile data 322 and the server data 312 after a failed synchronization session without re-transmitting the entire server data 312 to the mobile device 320. Page 3 paragraph 31 line 7-12)*

 Chen does not specifically teach the first data comprising audio/video data and the second data comprising content data associated with the first data; based on information for synchronization or re- synchronization included in the second data. :the information including data rate information of the second data and/or size information However Sato does teaches the first data comprising audio/video data and the second data comprising content data associated with the first data; *(Sato discloses the encoding system controller 200 also generates the reproduction time information*

IT defining the reproduction time of the title editing unit (video object, VOB), and the stream encoding data St33 defining the system encode parameters for multiplexing the encoded multimedia stream containing video, audio, and sub-picture data. Note that the reproduction time information IT and stream encoding data St33 are generated for the video object VOB of each title in one video zone VZ; Column 9 lines 7-15) based on information for synchronization or re-synchronization included in the second data the information including data rate information of the second data and/or size information *(Sato teaches discloses to enable this resynchronization, audio reproduction stopping times 1 and 2, i.e., Audio Stop PTM 1 in VOB (VOB.sub.-- A.sub.-- STP.sub.-- PTM1), and Audio Stop PTM2 in VOB (VOB.sub.-- A.sub.-- STP.sub.-- PTM2), indicating the time at which the audio is to be paused; and audio reproduction stopping periods 1 and 2, i.e., Audio Gap Length 1 in VOB (VOB.sub.-- A.sub.-- GAP.sub.-- LEN1) and Audio Gap Length 2 in VOB (VOB.sub.-- A.sub.-- GAP.sub.-- LEN2), indicating for how long the audio is to be paused, are also declared in the DSI packet. Note that these times are specified at the system clock precision (90 Khz); Column 26 line 17-26)(Sato also discloses when the reproducing apparatus of the digital video disk system is configured with a disk read rate of 11 Mbps, a maximum AV data compression rate of 10 Mbps, and a track buffer (stream buffer 2400) capacity of 4 Mbits, for example, a data underflow state will occur; Column 37 line 6-10)*

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify the teachings of Chen's system and method for recovering failed

synchronization session with Sato's optical disc for generating a bistream containing a

plurality of video objects including video and audio data. One of ordinary skill in the art

would have been motivated to make this modification in order to have a more efficient

and seamless reproduction method/system. Saito discloses therefore, the object of the

present invention is to provide a data structure whereby natural, seamless reproduction

without scene data intermitting can be achieved even in such multi-angle scene

periods; a method for generating a system stream having said data structure; a

recording apparatus and a reproduction apparatus for recording and reproducing said

system stream; and a medium to which said system stream can be recorded and

from which said system stream can be reproduced by said recording apparatus and

reproduction apparatus. Column 2 lines 65 -Column 3 line 7.

Chen nor Sato explicitly discloses <u>based on a first command sent from the content</u>

<u>reproducing device to the content providing server,</u>

However Choi does teach <u>based on a first command sent from the content reproducing</u>

<u>device to the content providing server,</u> <u>**(Choi discloses the method further includes**</u>

<u>**receiving, by the client, the streamed media content from the server. The method**</u>

<u>**includes sending a reconnect request from the client to the server if the**</u>

<u>**streaming is interrupted; Page 2 paragraph 8 lines 7-13)**</u>

It would be obvious to a person of ordinary skill in the art at the time of the invention to

modify the teachings of Chen's system and method for recovering failed

synchronization session, Sato's optical disc for generating a bistream containing a

plurality of video objects including video and audio data to include Choi's system for

automatically recovering from failed network connections in streaming media. One of ordinary skill in the art would have been motivated to make this modification in order to have a more efficient and seamless reproduction system for issues which may arise in a network using streaming data. *Choi discloses Streaming media over diverse networks poses a variety of technical challenges. The network connection between the server and the client is often subject to adverse conditions such as congestion, packet loss, varying latencies, IGMP/ICMP errors, rebooting routers or other networking devices, rebooting servers, inadvertent reset of TCP connections, lost modem connections, and temporarily unplugged network cables. Depending on the severity of the issue, some streaming media players encounter such adverse conditions and subsequently post a critical error to the user interface. The error is critical in that the user must manually intervene and re-establish the streaming session. Unfortunately, in the case of on-demand content, this also means the user must manually seek to the position in the content that was last being viewed, if seeking in the content is allowed, after the connection is re-established. Further, when this streaming link is disconnected, all the clients and servers that are downstream from the disrupted connection are terminated. The abnormal termination of all downstream clients can result in significant lost revenue; Page 1 Paragraph 3.*

Therefore, it would be obvious to combine Chen, Sato, and Choi to arrive to the limitations of claim 1.

Regarding claim 4, Chen, Sato in view of Choi taught the method according to claim 1,

as described above. Choi further teaches <u>wherein the information is contained within a</u>

<u>header of the second stream of data.</u> **(Choi discloses when the distribution**

connection recovers, the server software 11sends another stream header before

streaming the content; Page 7 paragraph 93 lines 6-8)

Regarding claim 5, Chen, Sato in view of Choi taught the method according to claim 1,

as described above. Chen further teaches wherein the sensing

step includes sensing whether the failure in receiving the second data is due to a

disconnection or a delay of transmission of the second <u>stream of</u> data over the network.

(Chen discloses in addition, in general, the method includes detecting and

recovering from a failed prior synchronization session. In one embodiment, a

failed synchronization session is detected by comparing a sync key transmitted

by the mobile device in a sync request to a prior sync key stored in a

synchronization state table. For this embodiment, a failed synchronization

session is detected when the request sync key is one less than the prior sync

key*; Page 1 paragraph 4 lines 1-5)*

Regarding claim 6, Chen, Sato in view of Choi taught the method according to claim 1,

as described above. Sato also teaches further comprising:

delaying a time for re-synchronization, wherein during the re-synchronization delay the

first <u>stream of</u> data is reproduced, and the second <u>stream of</u> data is muted and not

reproduced. *(Sato discloses the decoding speed of the communications system*

can also become a problem when the source stream is supplied directly as

occurs with live broadcasts, cable television and other dedicated line

transmissions, broadcast satellites and other radio wave transmissions, and

other means whereby title content is not reproduced from a recording medium on

the user's side. In such cases the transmitted source stream must be interleaved;

Column 40 line 57-65)

Regarding claim 7, Chen, Sato in view of Choi taught the method according to claim 1,

as described above. Sato also teaches further comprising:

delaying a time, for re-synchronization, wherein during the re-synchronization delay the

first <u>stream of</u> data is reproduced, and <u>an</u> interpolated second <u>stream of</u> data is

reproduced. *(Sato discloses the audio reproduction stopping time 1 VOB.sub.--*

A.sub.-- STP.sub.-- PTM1.sub.-- reg stores the time at which the audio is to be

paused to enable resynchronization, and the audio reproduction stopping period

1 VOB.sub.-- A.sub.-- GAP.sub.-- LEN1.sub.-- reg stores the length of this pause

period.; Column 26 line 17-26)

Regarding claim 8, Chen, Sato in view of Choi taught the method according to claim 1,

as described above. Chen also teaches further comprising: delaying a time for re-

synchronization, wherein during the re-synchronization delay the first <u>stream of</u> data is reproduced, and a previous segment of the second <u>stream of</u> data is reproduced. *(Chen discloses in addition, the synchronization application 342 can perform incremental updates to the mobile device 320 to resynchronize the mobile data 322 and the server data 312 after a failed synchronization session without re-transmitting the entire server data 312 to the mobile device 320. Page 3 paragraph 31 line 7-12) (Sato discloses the audio reproduction stopping time 1 VOB.sub.-- A.sub.-- STP.sub.-- PTM1.sub.-- reg stores the time at which the audio is to be paused to enable resynchronization, and the audio reproduction stopping period 1 VOB.sub.-- A.sub.-- GAP.sub.-- LEN1.sub.-- reg stores the length of this pause period.; Column 26 line 17-26)*

Regarding claim 13, Chen, Sato in view of Choi taught the method according to claim 1, as described above. Sato further teaches wherein said re-synchronization step includes:

calculating an offset value for the second <u>stream of</u> data to establish re-synchronization; *(Sato discloses the audio start gap A.sub.-- STGAP is the time offset between the start of the audio and video presentation at the beginning of a VOB. This is a useful parameter for declaring seamless reproduction with the preceding encoded system stream; Column 61 line 27-30)*

sending a <u>second</u> command requesting transmission of the second <u>stream of</u> data

corresponding to the calculated offset value <u>from the content producing device</u> to the

content providing server; and

re-synchronizing the second <u>stream of</u> data transmitted in response to the <u>second</u>

command with the first <u>stream of</u> data read out from the recording medium. *(Chen*

discloses in addition, the synchronization application 342 can perform

incremental updates to the mobile device 320 to resynchronize the mobile data

322 and the server data 312 after a failed synchronization session without re-

transmitting the entire server data 312 to the mobile device 320. Page 3 paragraph

31 line 7-12)

Regarding claim 14, Chen, Sato in view of Choi taught the method according to claim

13, as described above. Sato further teaches wherein said calculating step is based on

a present playing time of the first <u>stream of</u> data <u>and a</u> number of bytes per second of

the second <u>stream of</u> data. *(Sato discloses though comprising two recording*

surfaces similarly to the recording media shown in FIG. 7, the DVD recording

medium RC3 shown in FIG. 8 has the recording surfaces on opposite sides of the

disk, i.e., has the first data recording surface RS1 on side SA and the second data

recording surface RS2 on side SB; Column 14 line 60-65)

Regarding claim 15, Chen, Sato in view of Choi taught the method according to claim

1<u>4</u>, as described above.   Sato further teaches wherein the offset value of the

second data capable of re-synchronization is calculated by adding the present playing

time of the first <u>stream of</u> data to a predetermined amount of time <u>to produce a result</u>

and multiplying the result by the number of bytes per second of the second <u>stream of</u>

data. *(Sato also discloses when the reproducing apparatus of the digital video*

disk system is configured with a disk read rate of 11 Mbps, a maximum AV data

compression rate of 10 Mbps, and a track buffer (stream buffer 2400) capacity of 4

Mbits, for example, a data underflow state will occur; Column 37 line 6-10)

Regarding claim 16, Chen, Sato in view of Choi taught the method according to claim

15, as described above. Sato further teaches wherein the predetermined

amount of time is <u>proportional</u> to a speed of the second <u>stream of</u> data being transferred

over the network. *(Sato discloses in order to achieve the aforementioned*

objective, an interleaving method which for the presentation of a bitstream that is

reproduced by selecting two or more data units from a bitstream comprising

three or more data units contiguous on the same time-base is characterized by

generating said bitstream by arranging the selected data units in a particular

sequence on the same time-base based on the presentation time of each data unit

so that it is possible to sequentially access all data units and present only the

selected data units without time-base intermittence; Column 3 line 18-27)

Regarding claim 17, Chen teaches an apparatus for reproducing content information.

comprising: *(Chen states is a functional block diagram generally illustrating one*

embodiment for a synchronization recovery system 300 for recovering from a

failed synchronization session between a fixed computing device, such as an information server 310 and a mobile device 320, in accordance with the present invention; Page 3 paragraph 28 line 1-4)

a renderer configured to reproduce a first stream of data read out from a recording medium in synchronization with a second stream of data received from a content providing server over a network based on a first command, (***Chen discloses the system includes a first device associated with the first data store, a second device associated with the second data store, and a serve. The server is coupled to a storage medium on which a synchronization state is stored; Page 1 paragraph 05 line 4-8)*** the first stream of data comprising audio/video data and the second data comprising content data associated with the first data; and

a processor configured to sense a failure in receiving tile first stream of data. and upon sensing the failure in, (***Chen discloses is a functional block diagram generally illustrating one embodiment for a synchronization recovery system 300 for recovering from a failed synchronization session between a fixed computing device, such as an information server 310 and a mobile device 320, in accordance with the present invention. Page 3 paragraph 28 line 1-6)*** re-synchronize the first stream of data with the second stream of data based on information for synchronization or re-synchronization including in the second stream of data, the information including data rate information of the second stream of data and/or size information of the second stream of data. (***Chen discloses in addition, the synchronization application 342 can perform incremental updates to the mobile device 320 to resynchronize the***

mobile data 322 and the server data 312 after a failed synchronization session

without re-transmitting the entire server data 312 to the mobile device 320. Page 3

paragraph 31 line 7-12. Chen further discloses the synchronization application

342 saves information regarding the synchronization session in a

synchronization state table 344; Page 3 paragraph 30 lines 13-16)

Chen does not specifically teach the first data comprising audio/video data and the

second data comprising content data associated with the first data; based on

information for synchronization or re- synchronization included in the second data. :the

information including data rate information of the second data and/or size information

However Sato does teaches the first data comprising audio/video data and the second

data comprising content data associated with the first data; *(Sato discloses the*

encoding system controller 200 also generates the reproduction time information

IT defining the reproduction time of the title editing unit (video object, VOB), and

the stream encoding data St33 defining the system encode parameters for

multiplexing the encoded multimedia stream containing video, audio, and sub-

picture data. Note that the reproduction time information IT and stream encoding

data St33 are generated for the video object VOB of each title in one video zone

VZ; Column 9 lines 7-15) based on information for synchronization or re-

synchronization included in the second data the information including data rate

information of the second data and/or size information *(Sato teaches discloses to*

enable this resynchronization, audio reproduction stopping times 1 and 2, i.e.,

Audio Stop PTM 1 in VOB (VOB.sub.-- A.sub.-- STP.sub.-- PTM1), and Audio Stop

PTM2 in VOB (VOB.sub.-- A.sub.-- STP.sub.-- PTM2), indicating the time at which

the audio is to be paused; and audio reproduction stopping periods 1 and 2, i.e.,

Audio Gap Length 1 in VOB (VOB.sub.-- A.sub.-- GAP.sub.-- LEN1) and Audio Gap

Length 2 in VOB (VOB.sub.-- A.sub.-- GAP.sub.-- LEN2), indicating for how long

the audio is to be paused, are also declared in the DSI packet. Note that these

times are specified at the system clock precision (90 Khz); Column 26 line 17-

26)(Sato also discloses when the reproducing apparatus of the digital video disk

system is configured with a disk read rate of 11 Mbps, a maximum AV data

compression rate of 10 Mbps, and a track buffer (stream buffer 2400) capacity of 4

Mbits, for example, a data underflow state will occur; Column 37 line 6-10)

It would be obvious to a person of ordinary skill in the art at the time of the invention to

modify the teachings of Chen's system and method for recovering failed

synchronization session with Sato's optical disc for generating a bitstream containing a

plurality of video objects including video and audio data. One of ordinary skill in the art

would have been motivated to make this modification in order to have a more efficient

and seamless reproduction method/system. Saito discloses therefore, the object of the

present invention is to provide a data structure whereby natural, seamless reproduction

without scene data intermitting can be achieved even in such multi-angle scene

periods; a method for generating a system stream having said data structure; a

recording apparatus and a reproduction apparatus for recording and reproducing said

system stream; and a medium to which said system stream can be recorded and

from which said system stream can be reproduced by said recording apparatus and

reproduction apparatus. Column 2 lines 65 -Column 3 line 7.

Chen does not explicitly teach re-synchronize the first stream of data with the second stream of data based on information for synchronization or re-synchronization including in the second stream of data.

However Choi does teach re-synchronize the first stream of data with the second stream of data based on information for synchronization or re-synchronization including in the second stream of data, **(Choi discloses the server component and the client component include computer-executable instructions for exchanging one or more messages to re-map the state of the client and to re-synchronize playback of the content if the streaming is interrupted; Paragraph 11 lines 6-10)**

It would be obvious to a person of ordinary skill in the art at the time of the invention to modify the teachings of Chen's system and method for recovering failed synchronization session, Sato's optical disc for generating a bistream containing a plurality of video objects including video and audio data to include Choi's system for automatically recovering from failed network connections in streaming media. One of ordinary skill in the art would have been motivated to make this modification in order to have a more efficient and seamless reproduction system for issues which may arise in a network using streaming data. *Choi discloses Streaming media over diverse networks poses a variety of technical challenges. The network connection between the server and the client is often subject to adverse conditions such as congestion, packet loss, varying latencies, IGMP/ICMP errors, rebooting routers or other networking devices, rebooting servers, inadvertent reset of TCP connections, lost modem*

connections, and temporarily unplugged network cables. Depending on the severity of

the issue, some streaming media players encounter such adverse conditions and

subsequently post a critical error to the user interface. The error is critical in that the

user must manually intervene and re-establish the streaming session. Unfortunately, in

the case of on-demand content, this also means the user must manually seek to the

position in the content that was last being viewed, if seeking in the content is allowed,

after the connection is re-established. Further, when this streaming link is

disconnected, all the clients and servers that are downstream from the disrupted

connection are terminated. The abnormal termination of all downstream clients can

result in significant lost revenue; Page 1 Paragraph 3.

Therefore, it would be obvious to combine Chen , Sato, and Choi to arrive to the
limitations of claim 1.

Therefore, it would be obvious to combine Chen and Sato to arrive to the
limitations of claim 17.

Regarding claim 20, Chen, Sato in view of Choi taught the apparatus according to claim

17, as described above. Choi further teaches wherein <u>the information is contained</u>

<u>within a header of the second stream of data</u>. **(Choi discloses when the distribution**

connection recovers, the server software 11sends another stream header before

streaming the content; Page 7 paragraph 93 lines 6-8)

Regarding claim 21, Chen, Sato in view of Choi taught, the apparatus according to

claim 17, as described above. Chen also teaches wherein the

processor is configured to determine whether the failure is due to a disconnection or a

delay of transmission of the second <u>stream of</u> data over the network. *(Chen discloses*

in addition, in general, the method includes detecting and recovering from a

failed prior synchronization session. In one embodiment, a failed synchronization

session is detected by comparing a sync key transmitted by the mobile device in

a sync request to a prior sync key stored in a synchronization state table. For this

embodiment, a failed synchronization session is detected when the request sync

key is one less than the prior sync key; Page 1 paragraph 4 lines 1-5)

Regarding claim 22, Chen, Sato in view of Choi taught the apparatus according to claim

17, as described above. Sato further teaches wherein the processor is configured to

delay a time for re-synchronization, and control <u>such</u> that during the-re- synchronization

delay the first <u>stream of</u> data is reproduced, and the second <u>stream of</u> data is muted

and not reproduced, during the re-synchronization delay. *(Sato discloses the*

decoding speed of the communications system can also become a problem when

the source stream is supplied directly as occurs with live broadcasts, cable

television and other dedicated line transmissions, broadcast satellites and other

radio wave transmissions, and other means whereby title content is not

reproduced from a recording medium on the user's side. In such cases the

transmitted source stream must be interleaved; Column 40 line 57-65)

Regarding claim 23, Chen, Sato in view of Choi taught the apparatus according to claim

17, as described above. Chen further teaches wherein the

processor is configured to delay a time for resynchronization, and control <u>such</u> that

during the resynchronization delay the first <u>stream of</u> data is reproduced, and <u>an</u>

interpolated second <u>stream of</u> data is reproduced, during the re-synchronization delay.

(Sato discloses the audio reproduction stopping time 1 VOB.sub.-- A.sub.--

STP.sub.-- PTM1.sub.-- reg stores the time at which the audio is to be paused to

enable resynchronization, and the audio reproduction stopping period 1

VOB.sub.-- A.sub.-- GAP.sub.-- LEN1.sub.-- reg stores the length of this pause

period.; Column 26 line 17-26)

Regarding claim 24, Chen, Sato in view of Choi taught the apparatus according to claim

17, as described above.   Chen further teaches wherein the processor is configured to

delay a time for resynchronization, and control <u>such</u> that during resynchronization delay

the first data is reproduced, and a previous segment of the second <u>stream of</u> data is

reproduced, during the re-synchronization delay. *(Chen discloses in addition, the*

synchronization application 342 can perform incremental updates to the mobile

device 320 to resynchronize the mobile data 322 and the server data 312 after a

failed synchronization session without re-transmitting the entire server data 312

to the mobile device 320. Page 3 paragraph 31 line 7-12) (Sato discloses the audio

reproduction stopping time 1 VOB.sub.-- A.sub.-- STP.sub.-- PTM1.sub.-- reg

stores the time at which the audio is to be paused to enable resynchronization,

and the audio reproduction stopping period 1 VOB.sub.-- A.sub.-- GAP.sub.--

LEN1.sub.-- reg stores the length of this pause period.; Column 26 line 17-26)

Regarding claim 29, Chen, Sato in view of Choi taught the apparatus according to claim

17, as described above. Chen further teaches wherein said.

processor, is configured to re-synchronize the first stream of data and second stream of

data, calculating an offset value for the second stream of data to establish re-

synchronization sending a second data corresponding to the calculated offset value to

the Content providing server; *(Sato discloses the audio start gap A.sub.-- STGAP is*

the time offset between the start of the audio and video presentation at the

beginning of a VOB. This is a useful parameter for declaring seamless

reproduction with the preceding encoded system stream; Column 61 line 27-30)

and re-synchronizing the second stream of data transmitted in response to the second

command with the first stream of data read out from the recording medium. . *(Chen*

discloses in addition, the synchronization application 342 can perform

incremental updates to the mobile device 320 to resynchronize the mobile data

322 and the server data 312 after a failed synchronization session without re-

transmitting the entire server data 312 to the mobile device 320. Page 3 paragraph

31 line 7-12)

Regarding claim 30, Chen, Sato in view of Choi taught the apparatus according to claim

29, as described above. Sato further teaches wherein said

processor is configured to use a present playing time of the first <u>stream of</u> data <u>and a</u>

number of bytes per second <u>stream of</u> the second data, when calculating the offset

value, *(Sato discloses the audio start gap A.sub.-- STGAP is the time offset*

between the start of the audio and video presentation at the beginning of a VOB.

This is a useful parameter for declaring seamless reproduction with the

preceding encoded system stream; Column 61 line 27-30)

Regarding claim 31, Chen, Sato in view of Choi taught the apparatus according to claim

<u>30</u>, as described above. Sato furher teaches wherein the offset value is calculated by

said processor by adding the present playing time of the first <u>stream of</u> data to a

predetermined amount of time to <u>produce a result</u> and multiplying the result by the

number of bytes per second of the second <u>stream of</u> data. *(Sato also discloses when*

the reproducing apparatus of the digital video disk system is configured with a

disk read rate of 11 Mbps, a maximum AV data compression rate of 10 Mbps, and

a track buffer (stream buffer 2400) capacity of 4 Mbits, for example, a data

underflow state will occur; Column 37 line 6-10)

Regarding claim 32, Chen, Sato in view of Choi taught the apparatus according to claim

31, as described above. Sato further teaches wherein the predetermined

amount of time is <u>proportional</u> to a speed of the second <u>stream of</u> data being transferred

over the network. *(Sato discloses in order to achieve the aforementioned*

objective, an interleaving method which for the presentation of a bitstream that is

reproduced by selecting two or more data units from a bitstream comprising

three or more data units contiguous on the same time-base is characterized by

generating said bitstream by arranging the selected data units in a particular

sequence on the same time-base based on the presentation time of each data unit

so that it is possible to sequentially access all data units and present only the

selected data units without time-base intermittence; Column 3 line 18-27)

Regarding claim 39, Chen, Sato in view of Choi taught the method according to claim 1,

as described above. Choi further teaches wherein the step of reproducing comprises:

buffering the second stream of data prior to synchronization. **(Choi discloses if the**

reconnection process occurred relatively quickly, the server 108 may have

buffered a small amount of the live content, and will deliver that buffered content

to the client 110 if reconnection is successful; Page 3 paragraph 28 lines 10-14)

Regarding claim 40, Chen, Sato in view of Choi taught the apparatus according to claim

17, as describe above. Choi further teaches comprising: a buffer configured to buffer

the second stream of data prior to synchronization.   **(Choi discloses if the**

reconnection process occurred relatively quickly, the server 108 may have

buffered a small amount of the live content, and will deliver that buffered content

to the client 110 if reconnection is successful; Page 3 paragraph 28 lines 10-14)

Response to Arguments

5.   Applicant's arguments with respect to claims 1, 4-8, 13-17, 20-24, 29-32, 39, 40

have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6.   The following prior art made of record and not relied upon is cited to establish the
level of skill in the applicant's art and those arts considered reasonably pertinent to
applicant's disclosure. See MPEP 707.05 ©.

7. The following reference teaches execution of trial data.

     US 2002/0016827

     US 6363411

     US 2002/0078144

     US 2003/0084460

     US 6580870

    The examiner requests, in response to this Office action, support be shown for language added to any original claims on amendment and any new claim. That is indicated support for newly added claim language by specifically pointing to page(s) and line no(s) in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald Smarth whose telephone number is (571)270-1923. The examiner can normally be reached on Monday-Friday(7:30am-5:00pm)est.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571)272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. S./
Examiner, Art Unit 2446

/Jeffrey Pwu/
Supervisory Patent Examiner, Art Unit 2446